

REMARKS

Claims 1 to 15 are pending in the application, of which claims 1, 11 and 14 are independent. Initially, the applicants thank the examiner for indicating that claims 11 to 13 are allowed. Reconsideration of the remaining claims in the application, as amended, is respectfully requested in view of the following remarks:

Priority

The applicants have enclosed a copy of the Form PCT/IB/304 in support of the claim for foreign priority based on applications filed in Japan on 14 July 2000 and 13 September 2000. The applicants believe this copy of the Form PCT/IB/304 satisfies the 35 U.S.C. §119(b)(3) requirement.

35 U.S.C. § 103(A) REJECTIONS

Scobey et al.

The examiner rejected claims 1, 2 and 6 to 8 under 35 U.S.C. § 103(a) as being unpatentable over Scobey et al. (U.S. 6,115,401; "Scobey").

Claim 1 is directed to a an optical element having wavelength selectivity. The optical element includes "a lens array having a first end face and a plurality of lenses arranged on the first end face; and a multi-layered film filter which is formed on the first end face of the lens array and includes high refractive-index dielectric layers and low refractive-index dielectric layers laminated alternately and whose film thickness continuously changes in accordance with positions of the individual lenses."

As acknowledged by the examiner, Scobey does not disclose or suggest forming a multi-layered film filter on an end face of a lens array. However, the examiner asserted on page 3 of the Office Action that:

It would have been obvious to one of ordinary skill in the art at the time of the invention to have the film filter formed integrally with the lens array, since it has been held that making in one piece an article which has formerly been formed in multiple pieces involves only routine skill in the art.

The applicants disagree. Scobey discloses an external cavity, single mode laser. The Scobey laser has a monolithic prism assembly that includes a transparent substrate carrying a thin film Fabry-Perot interference filter on a face which is tilted to the path of travel of the laser light in

the external cavity. Specifically, Scobey describes the Fabry-Perot interference filter as being disposed at a non-zero angle to deflect filter out-of-band light away from the optical axis to prevent unwanted feedback into the gain medium. Scobey also discloses replacing a series of Fabry-Perot interference filters with a single Fabry-Perot continuous linearly variable thickness, multi-cavity filter (filter 122 in FIG. 8 of the Scobey reference) that is formed on a surface of an optical block disposed at a non-zero angle. Scobey is silent about forming the multi-layered film filter on the lens array itself. Even if Scobey's collimating lenses can be arranged on an end face, which the applicants do not concede, it still would not have been obvious for Scobey to form the continuous filter 122 on the end face as it would have rendered the Scobey system inoperable. As Scobey discloses at column 2, lines 62 to column 3, lines 2: "wavelength tuning [using a Fabry-Perot interference filter] is accomplished by tilting the filter."

For at least these reasons, the applicants submit that claim 1 is allowable over Scobey. Claims 2 and 6 to 8 depend on claim 1 and are allowable for at least the same reasons.

Scobey et al. in view of Liu

Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Scobey in view of Liu (U.S. 6,054,703). Scobey has been discussed above. Liu was cited mainly for the proposition that it discloses a rod lens array.

Claim 3 is directed to an optical element having wavelength selectivity. The optical element of claim 3 has an end array that is a rod lens array. The rod lens array includes a plurality of rod lenses.

Liu discloses a scanning mechanism for producing multiple outputs in parallel from corresponding multiple sensing segments and combining the multiple outputs to increase the signal readout rate from the scanning mechanism. Liu neither describes nor suggests an optical element having wavelength selectivity. Neither Scobey nor Liu, alone or in combination, teaches or suggests the features of claim 3. For at least these reasons, the applicants submit that claim 3 is allowable over Scobey in view of Liu.

Scobey et al. in view of Bergmann et al.

Claims 4 and 5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Scobey in view of Bergmann et al. (U.S. 6,064,522; "Bergmann"). Scobey has been discussed above. Bergmann was cited mainly for the proposition that it discloses a gradient index planar microlens.

Claims 4 and 5 are directed to an optical element having wavelength selectivity. The optical element of claim 4 has a lens array that is a gradient index planar microlens formed by a plurality of microlenses on a single substrate. The optical element of claim 5 has a lens array that has a plurality of microlenses that protrude from a single substrate.

Bergmann discloses a non-reciprocal device having an nxm lens array layer that allows light to be supplied directly to each lens of the lens array layer from an external waveguide. Bergmann neither describes nor suggests an optical element having wavelength selectivity. Neither Scobey nor Bergmann, alone or in combination, teaches or suggests the features of claims 4 or 5. For at least these reasons, the applicants submit that claims 4 and 5 are allowable over Scobey in view of Bergmann.

Enclosed is a \$110.00 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: _____

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